Lucas Heights Western Landfill Extension

Application Number: **03203** Commencement Date: **30/10/2025** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Lucas Heights Western Landfill Extension

1.1.2 Project industry type *

Waste Management (non-sewerage)

1.1.3 Project industry sub-type

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1.1.4 Estimated start date *

01/01/2028

1.1.4 Estimated end date *

31/12/2048

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Extension of the existing landfill onto landfill-owned lands to the west (the western extension). The Western Extension Project (the Proposed Action) includes:

- Extension of the Lucas Heights Resource Recovery Park (LHRRP) landfill beyond the approved landfill footprint, into the Western Area.
- Relocation of leachate storage pond, stormwater pond and associated treatment and pumping infrastructure
  from current northwestern boundary locations) to new locations along the northern boundary low points.
- Temporary stockpiling of excavated material.
- Realignment of Mill Creek stormwater channel to accommodate the extension by
  diverting the channel along the western and northern LHRRP boundary.
- An estimated additional 10 million cubic metres (m3) of landfill capacity (inclusive of a 500,000 m3 capacity
  restricted waste cell located in the northwestern corner of the Western Area)
- Continuation of landfilling at the approved input rate of up to 970,000 tonnes per year (inclusive of an estimated 50,000 tonnes per year of restricted solid waste) until approximately the end of 2046 (with existing
  access through Little Forest Road, off New Illawarra Road).
- Receival of leachate from Cleanaway's Elizabeth Drive Landfill for treatment at the Lucas Heights Leachate
  Treatment Plant (LTP) at the former Lucas Heights 1 (LH1) landfill.
- Landfill closure and rehabilitation works.
- A revised landscape plan for future passive recreational use that incorporates the Western Area, subject to
  agreement with Australian Nuclear Science Technology Organisation (ANSTO) and Sutherland Shire Council (SSC).

The purpose of the Project is to address the projected shortfall of landfilling capacity in Greater Sydney in the order of 1.0 million tonnes per year by 2030. At the current approved landfilling rate of 970,000 tonnes per year, the landfill airspace is projected to be exhausted by 2030, leaving only 50,000 tonnes per year reserved to meet SSC commitments. Without new waste solutions, it is expected there will be insufficient landfill disposal capacity to service Greater Sydney and meet the demands of a growing population (see link Sydney Landfill Shortage). To address the looming landfill capacity shortage, Cleanaway is proposing to extend the LHRRP landfill to the west of the approved landfill footprint into the Western Area.

Adjacent parts of the LHRRP (including parts of the Project Area) were previously subject to referrals under the EPBC Act. A 2001 referral was for the "construction of a radioactive waste treatment and packaging building" by the Australian Nuclear Science and Technology Organisation (ANSTO) on lands of the LHRRP owned by ANSTO and leased by the Proponent. The second 2015 referral was for:

1. "Re-profiling of the existing landform
2. Relocation and expansion of the Garden Organics (GO) Facility
3. Construction and operation of an Advanced Resource Recovery Technology (ARRT) Facility".

Both of these referrals were not deemed controlled actions. See attached Att 20-Instrument for Referral Decision 2001-XYZ-2025 and Att 21-Instrument for Referral Decision 2015-XYZ-2025, respectively.

The Project Area is 70.76ha of which 20.49ha is dominated by native vegetation. There would be a Disturbance Footprint of 22.97ha (17.15ha of which is native vegetation) and Avoidance Area of 4.02ha (3.34ha of which is native vegetation). The remainder of the Avoidance Area consists of tracks and other cleared areas for the previous site use. This remainder would be regenerated with native vegetation as part of the management of the Avoidance Area. The remainder of the Project Area outside of the Disturbance Footprint (43.77ha) consists of existing lands of the LHRRP. The Project will require contouring within these

areas to achieve level with the final landform in the area proposed for extension of the landfill. These activities form part of the Proposed Action, consistent with NSW approvals. However, these lands are devoid of native vegetation or other biodiversity values and activities within these areas will not result in any impacts to Matters of National Environmental Significance (MNES).

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

The Lucas Heights landfill is part of the Lucas Heights Resource Recovery Park (LHRRP), it was constructed and is operated under the State Significant Development consent (SSD-6835) determined on January 2017, with Modification 1 (MOD 1) determined June 2018 and Modification 2 (MOD 2) determined on November 2023. The LHRRP currently operates with two Environmental Protection Licenses (EPLs), being EPL 5065 and EPL 12520.

Cleanaway is in the process of obtaining State significant development consent for the Western Expansion Project under Part 4 of the *Environmental Planning and Assessment Act 1979* (NSW). Cleanaway lodged its Scoping Report in November 2024. DPHI issued SEARs on 20 December 2024. The next step is for Cleanaway to lodge its environmental impact statement, expected in mid-2026.

Under Part 7.9 (1) (b) of the NSW *Biodiversity Conservation Act 2016* (BC Act) the Project application is required to be accompanied by a Biodiversity Development Assessment Report (BDAR) as per Division 5.2 of the EP&A Act to carry out a **State significant Development**.

Projects which are likely to have a significant residual impact on MNES require referral to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) to determine whether assessment and approval is required under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). If a project is deemed likely to result in a significant impact to MNES it is deemed a controlled action and will require assessment under the EPBC Act and approval from the Commonwealth Minister for the Environment (or the Minister's delegate).

This referral assesses the potential impacts on MNES and seeks a determination on whether the project is to be deemed a controlled action. If deemed a controlled action, the proponent is seeking assessment under the Assessment Bilateral Agreement between the Commonwealth and the State of NSW.

A bilateral agreement signed between the Commonwealth and the State of NSW streamlines the assessment process for State significant projects, and other projects where the State of NSW is the consent authority. The bilateral agreement accredits the assessment process for a range of projects, including projects assessed under Division 4.7 of the EP&A Act (i.e. SSD projects). The bilateral agreement also endorses the Biodiversity Offset Scheme (BOS) for the purposes of condition setting.

The key benefit of assessment under the bilateral agreement is a single assessment process, whereby assessment of impacts to biodiversity values, including threatened species and communities listed under the EPBC Act, is undertaken by a single agency (NSW Department of Climate Change, Energy, the Environment and Water) including a common set of conditions should the project be approved. Under the bilateral agreement process, supplementary SEARs are issued outlining the Commonwealth's requirements for assessment under the EPBC Act.

If the Project is deemed a controlled action, the proponent is seeking assessment under the Bilateral Agreement.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Stakeholder consultation has been undertaken for the Proposed Action with the following entities. These entities and key points from consultation are detailed below:

- Lucas Heights Community Reference Group (CRG).
    - Minutes of a meeting held on 11/09/2025. Attached as (Att 1-CRG Consultation-REDACTED-XYZ-2025).
    - In attendance were representatives from Cleanaway, local residents, Menai Wildflowers, Sutherland Shire Council (SCC), a Parliament Official, LMS Energy, GHD Group and Captive Consulting.
    - Items discussed comprised Welcome and Agenda, Acceptance of Notes from Previous Meetings, Bioenergy Facility, Operations Updates, Organics, Environmental Update, Discussion and General Discussion.
    - Notable items raised by representatives regarding the Project comprised.
        - Update on Bioenergy facility location and operations.
        - Discussion of complaints by local residents and NSW Environmental Protection Authority (EPA) regarding odour and concerns regarding leachate storage capacity during high rainfall events.
        - Update on EIS preparation and local community involvement.
- Sutherland Shire Council (SSC).
    - Document detailing the Project, providing a Site Overview, Zoning, Proposed State Significant Development (SSD) Application, Landowner and Way Forward. Also includes an Appendix with figures showing relevant site details. Attached as (Att 2-SCC Consultation-REDACTED-XYZ-2025).
- Australian Nuclear Science and Technology Organisation (ANSTO).
    - Document detailing the Project, providing a Site Overview, Zoning, Proposed State Significant Development (SSD) Application, Landowner and Way Forward. Also includes an Appendix with figures showing relevant site details. Attached as (Att 3-ANSTO Consultation-REDACTED-XYZ-2025).
- NSW Department of Planning, Housing and Infrastructure (DPHI).
    - Document detailing the Project, providing a Site Overview, Zoning, Proposed State Significant Development (SSD) Application, Landowner and Way Forward. Also includes an Appendix with figures showing relevant site details. Attached as (Att 4-DPHI Consultation-REDACTED-XYZ-2025).
- NSW Environment Protection Authority (EPA).
    - Document detailing the Project, providing a Site Overview, Zoning, Proposed State Significant Development (SSD) Application, Landowner and Way Forward. Also includes an Appendix with figures showing relevant site details. Attached as (Att 5-EPA Consultation-REDACTED-XYZ-2025).
- Holsworthy Barracks.
    - Document detailing the Project, providing a Site Overview, Zoning, Proposed State Significant Development (SSD) Application, Landowner and Way Forward. Also includes an Appendix with figures showing relevant site details. Attached as (Att 6-Holsworthy Consultation-REDACTED-XYZ-2025).
- Registered Aboriginal Parties (RAPs).
    - Section 2 and Appendix B of the attached Lucas Heights Resource Recovery Park Western Extension Aboriginal Cultural Heritage Assessment Report (Att 7-leanaway Aboriginal Heritage Report-XYZ-2025).
    - 13 RAPs registered for the report.
    - The RAPs were invited to comment on the methodology and provide feedback on the proposed methodology, with any comments incorporated within the final report. The proposed methodology was provided to the RAPs on 11 July 2025, with any feedback or comments to be provided by 8 August 2025.

- Representatives from the Gandangara LALC, Yurrandaali, the South Coast People were invited to participate in the archaeological survey as they had provided the required insurances and possessed both experience and cultural knowledge of the Study Area. The archaeological survey was undertaken on 18 and 19 August 2025 by Tim Ried, Renee Regal (Regal Heritage), and four LALC representatives.
- At the conclusion of the survey, participants indicated that the proposal footprint was unlikely to contain archaeological material due to the high levels of disturbance and shallow soils within the proposal footprint. During the survey, the participants were asked if there were any non-archaeological Aboriginal values that need to be addressed in the assessment, but no information was passed on to GHD.

Note: All of these documents have been provided in full, with the exception of Attachments 1, 2, 3, 4, 5 and 6. These have been modified to remove personal information

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	29001584612
Organisation name	SLR CONSULTING AUSTRALIA PTY LTD
Organisation address	NSW 2500

Referring party details

Name	Bo Davidson
Job title	Associate Ecologist
Phone	0402575497
Email	bdavidson@slrconsulting.com
Address	Level 1, The Central Building, Innovation Campus, Squires Way, Wollongong NSW 2500

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	79000164938
Organisation name	CLEANAWAY PTY LTD
Organisation address	VIC 3004

Person proposing to take the action details

Name	James Perry
Job title	State Manager NSW Post Collections
Phone	0421224382
Email	james.perry@cleanaway.com.au
Address	1725 Elizabeth Drive Kemps Creek NSW 2178

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

The Proponent has a satisfactory record of responsible environmental management. The Proponent has provided the following statement regarding recent legal proceedings for law for the protection of the environment or the conservation and sustainable use of natural resources.

In June 2022, Cleanaway was charged with three offences under section 27A(1)(a) of the Environment Protection Act 1970 of contravening any rules or requirements relating to industrial waste specified in a waste management policy in that it failed to produce a fire risk assessment upon request; it failed to comply with stockpile distances and it had misleading information on a sign at the premises. The Broadmeadows Magistrates Court imposed a fine of $15,000 on Cleanaway and a conviction was recorded in relation to the first two charges (the third was withdrawn).

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Cleanaway's 2025 Sustainability Report is attached.

This report details Cleanaway's sustainability objectives with reference to their Blueprint 2030. It is divided into four pillars:

- Recovering Resources.
    - Cleanaway play a vital role in enabling Australia’s circular economy, working with our partners to ensure valuable resources are recovered from waste streams and returned to the value chain.
- Protecting the Environment.
    - As a total waste solutions provider, Cleanaway prioritise resource reuse, recycling, and recovery wherever possible. When these options are not feasible, we offer safe and responsible, at-scale treatment and disposal solutions.
- Reducing Emissions.
    - The goal of net zero compels us all to take action to reduce the impacts of climate change. Cleanaway is committed to reducing our emissions and helping our customers do the same..
- Working Together.
    - To deliver on Cleanaway's mission requires the co-ordinated effort and hard work of Cleanaway's people, suppliers and communities. Together, we fulfil our purpose of making a sustainable future possible together.

The report also contains an Independent Limited Assurance Report by Ernst and Young, that concluded “*based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe the Subject Matter has not been prepared, in all material respects, in accordance with the Criteria defined below*” (Att 8-Cleanaway FY25 Sustainability Report P1-XYZ-2025.pdf).

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	79000164938
Organisation name	CLEANAWAY PTY LTD
Organisation address	VIC 3004

Proposed designated proponent details

Name	James Perry
Job title	State Manager NSW Post Collections
Phone	0421224382
Email	james.perry@cleanaway.com.au
Address	1725 Elizabeth Drive Kemps Creek NSW 2178

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	29001584612
Organisation name	SLR CONSULTING AUSTRALIA PTY LTD
Organisation address	NSW 2500
Representative's name	Bo Davidson
Representative's job title	Associate Ecologist
Phone	0402575497
Email	bdavidson@slrconsulting.com
Address	Level 1, The Central Building, Innovation Campus, Squires Way, Wollongong NSW 2500

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	79000164938
Organisation name	CLEANAWAY PTY LTD
Organisation address	VIC 3004
Representative's name	James Perry
Representative's job title	State Manager NSW Post Collections
Phone	0421224382
Email	james.perry@cleanaway.com.au
Address	1725 Elizabeth Drive Kemps Creek NSW 2178

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

No

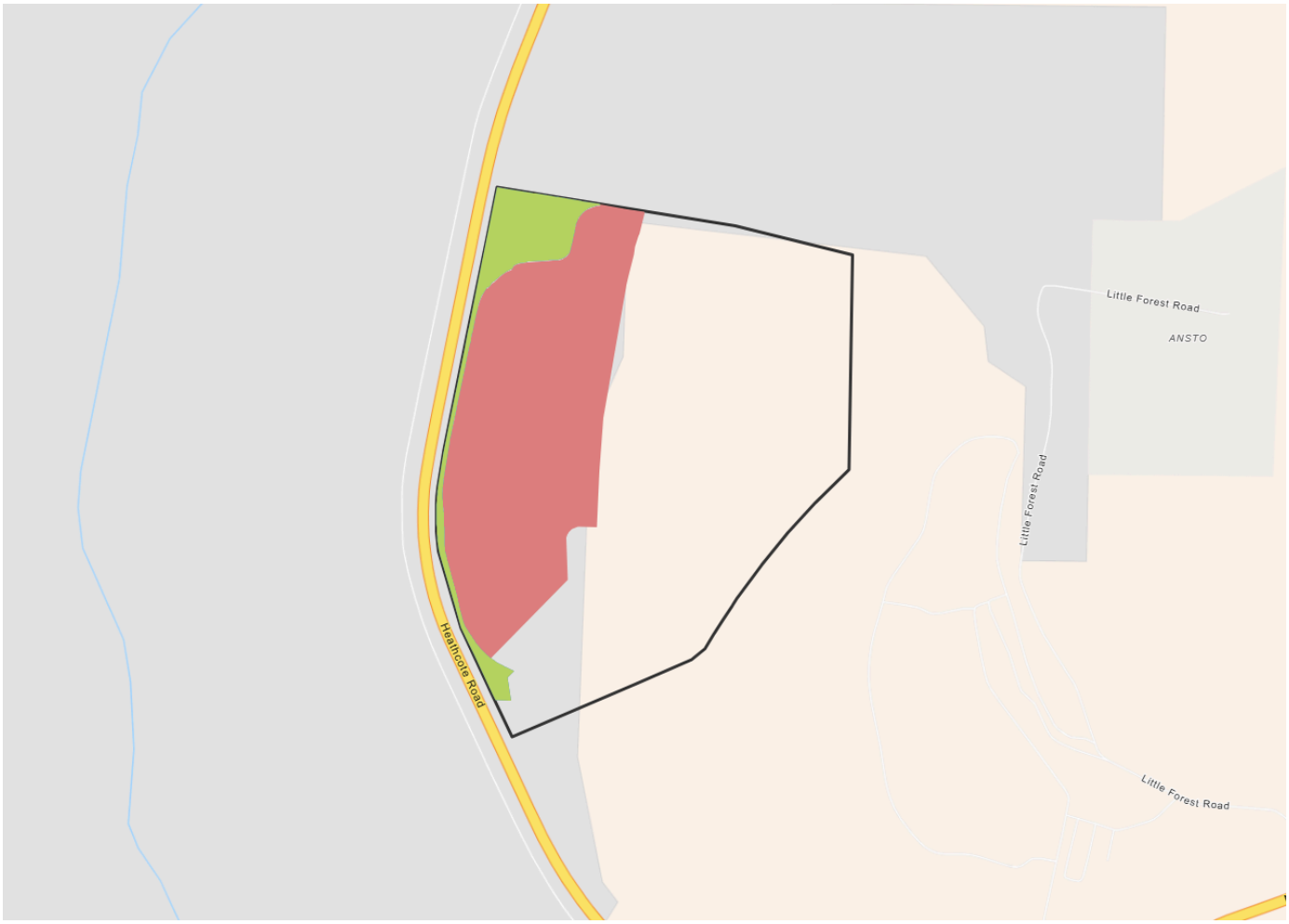
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



Project Area: 70.76 Ha **Disturbance Footprint:** 22.97 Ha **Avoidance Area:** 4.02 Ha **Retention Area:** 4.02 Ha

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

Little Forest Rd, Lucas Heights NSW 2234 (lot 3 DP 1032102)

2.2.2 Where is the primary jurisdiction of the proposed action? *

New South Wales

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The Project Area is wholly privately owned (freehold land) by Cleanaway Pty Ltd.

Please note that proposal boundary is within Cleanaway's land (not within Commonwealth land-i.e. Australian Nuclear Science and Testing Organisation (ANSTO)), based on the concept design of the proposal. Proposal boundary may be extended/encroached within the LHRRP (i.e. within ANSTO's buffer zone), which will be confirmed during the assessment and detail design phase of the SSD application.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area’s environment.

The Project Area is located within the west of the existing Lucas Heights Resource Recovery Park (LHRRP) and wholly within the larger Lot 3 DP 1032102. It includes part of the currently operating LHHRP lands and a currently unused part of the LHRRP which is located in the west of the Project Area (forming the Disturbance Footprint and Avoidance Area). The Disturbance Footprint and Avoidance Area contains significant native vegetation and fauna habitat values. The remainder of the Project Area, which occurs within existing operational lands of the LHRRP is devoid of significant native vegetation and other biodiversity values. This area is dominated by exposed soil, as part of the existing operational area of the LHRRP. See Att 16-Disturbance Footprint and Avoidance Area-V4-XYZ-2025. Areas of native vegetation to the east and south of the Disturbance Footprint and Avoidance Area are currently subject to other approved development works and therefore do not form part of the Disturbance Footprint and Avoidance Area for the Project.

Please note that Project Area is within Cleanaway's land (not within Commonwealth land-i.e. Australian Nuclear Science and Technology Organisation (ANSTO), based on the concept design of the proposal. The Project Area boundary may be extended/encroached within the LHRRP (i.e. within ANSTO's buffer zone), which will be confirmed during the assessment and detail design phase of the SSD application.

The Project Area wholly occurs on lands mapped as RE1 - Public Recreation. It is bordered by native vegetation to the north on lands zoned C2 - Environmental Conservation and C2 - Environmental Management. To the east it is bordered by other lands of the existing Lucas Heights Resource Recovery Park landfill area (zoned RE1 - Public Recreation and SP2 - Waste Recycling). To the south it is bordered by native vegetation on Lucas Heights Resource Recovery Park owned lands (zoned RE1 - Public Recreation). To the west is it bordered by Heathcote Road (zoned SP2 - Classified Road) and over this road by the Holsworthy Army Base grounds (zoned SP2 - Defence).

The Disturbance Footprint and Avoidance Area are characterised by a mixture of cleared areas and access tracks, exotic lawns and native vegetation of varying condition. The majority of native vegetation is in good condition; however, portions in the south were historically cleared and are currently characterised by scattered native trees and shrubs with little groundcover present. The north-western corner of the Disturbance Footprint and Avoidance Area contains numerous unsealed access tracks and cleared dirt areas formally used by the Sydney International Clay Target Association (SICTA), which previously leased the Disturbance Footprint and Avoidance Area. Native vegetation in this area is largely in moderate to good condition, but the ground layer is affected by these cleared areas (sediment migration, erosion etc.). A large portion of the southern part of the Disturbance Footprint and Avoidance Area consists of a well-maintained open lawn area formally used for shooting by SICTA. This area contains no native vegetation values but does contain some fauna habitat features in the form of man-made structures.

The Disturbance Footprint and Avoidance Area contain one waterbody, which supports aquatic vegetation that provides potential habitat for some native fauna (mainly amphibians, reptiles and birds). The Disturbance Footprint and Avoidance Area contains the upper reaches of the Mill Creek Stormwater Channel and minor tributaries, which flows out of the Project Area to the north, eventually feeding into the Georges River. The tributaries feeding into the Mill Creek Stormwater Channel within the Disturbance Footprint and Avoidance Area are of varying condition; within the south they support a good condition native rushland along a drainage below the south-central waterbody. However, the Mill Creek Stormwater Channel below this, which mostly follows the western boundary of the existing landfill area outside of the Disturbance Footprint and Avoidance Area, has lower ecological value with little native vegetation cover and a high density of exotic weeds. It also supports significant instream infrastructure (contouring scour lining, access points etc.).

Vehicle access to the Disturbance Footprint and Avoidance Area is currently only through a set of gates along Heathcote Road with no internal access from the existing LHRRP lands.

3.1.2 Describe any existing or proposed uses for the project area.

The Disturbance Footprint and Avoidance Area portions of the Project Area was formally licensed to the SICTA. This association used the Disturbance Footprint and Avoidance Area as a gun club and clay target shooting range. This lease expired in March 2025 and SICTA no longer uses these areas.

The Disturbance Footprint and Avoidance Area is currently not being used for any active purpose.

The Project Area is proposed for use as an extension to the LHRRP as outlined above.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The Project Area supports one Threatened Ecological Community (TEC) listed under the EPBC Act: Coastal Upland Swamps in the Sydney Basin Bioregion, and populations of two threatened plant species: *Genoplesium baueri* (Bauer's Midge Orchid) and *Melaleuca deanei* (Deane's Paperbark). A third threatened flora species, *Cryptostylis hunteriana* (Leafless Tongue Orchid) was also found nearby during surveys in February 2025; however, no individuals of this species have been found within the Project Area to date and the species will not be subject to direct or indirect impacts.

The Project Area also supports habitat for a range of native fauna (including threatened species) including natural rocky areas, hollow-bearing trees, human-made water sources (waterbody) and upper tributaries of the Mill Creek waterway. No threatened fauna species listed under the EPBC Act have been recorded during the extensive targeted surveys undertaken to date.

The Project Area is bordered to the north by the Lucas Heights Conservation Area, a reserve managed by Sutherland Shire Council. To the east and south it is bordered by existing LHRRP lands. To the west it is bordered by the Heathcote Road reserve and the Holsworthy Army Base which supports extensive areas of native vegetation.

No world heritage, the Great Barrier Reef Marine Park or Commonwealth marine area occurs on or within 10km of the Project Area. One national heritage area occurs within 10km, the Royal National Park and Garawarra State Conservation Area and one Ramsar Wetland, the Towra Point Nature Reserve.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The Project Area varies from approximately 154m to 109m Above Sea Level (ASL), with elevations highest along the eastern and western boundaries and lowest in the centre (along the north-west Mill Creek Stormwater Channel). The strongest gradient across the Project Area is in the south-west to north direction (from the south-west corner of the Disturbance Footprint to the bottom of the Mill Creek Stormwater Channel in the centre-north), but contains gentle slopes over an approximately 970m distance.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Extensive and detailed surveys have been undertaken within the Disturbance Footprint and Avoidance Area since 2023 and the ecological values of these areas are well understood.

These areas currently support four distinct Plant Community Types (PCTs):

- Sydney Hinterland Apple-Blackbutt Gully Forest (PCT 3615).
- Sydney Hinterland Enriched Sandstone Bloodwood Forest (PCT 3619).
- Sydney Hinterland Dwarf Apple Low Woodland (PCT 3813).
- Sydney Coastal Upland Swamp Heath (PCT 3924).

PCT 3924 conforms to one TEC listed as endangered under the EPBC Act, being Coastal Upland Swamps in the Sydney Basin Bioregion. This TEC occurs in the south-eastern corner of the Disturbance Footprint along a drainage below a waterbody (refer to zone 8 on the attached vegetation zones map (Att 9-PCTs, TECs and TS Locations-V5-XYZ-2026)).

Targeted flora surveys were undertaken for 18 threatened flora species listed under the EPBC Act during seven threatened flora survey periods (2nd to 6th October 2023, 4th to 8th December 2023, 5th March 2024,13th, 14th and 20th February 2025, 5th and 6th August 2025, 11th November 2025 and 15th December 2025). These surveys followed the methodologies listed in the NSW Surveying Threatened Plants and Their Habitats NSW Survey Guide for the Biodiversity Assessment Method document ((NSW DPIE 2020) Surveying threatened plants and their habitats)). See attached table (Att 10-Flora Species Survey Table V3-XYZ-2025) for all EPBC Act flora species surveyed for in the Project Area.

Based on surveys, two threatened flora species are present in the Project Area. Two individuals of *Genoplesium baueri* (Bauer's Midge Orchid) were found during surveys on 5th March 2024. A further 103 individuals were detected within the Project Area during surveys on 13th, 14th and 20th February 2025 as well as a further 152 individuals on adjacent lands surveyed, mainly on the Council reserve lands to the north but also within the Heathcote Road reserve to the west. The precise location of these individuals is not provided, as this species is listed on the NSW Sensitive Species list. One individual of *Melaleuca deanei* (Deane's Paperbark) was identified during surveys on 4th October 2023. This individual is located in the north-west corner of the Project Area. A further seven individuals were detected within the Project Area during surveys on 13th and 14th February and 5th August 2025 as well as an additional 19 individuals on lands to the north of the Project Area. The location of these individuals is shown in the attached map (Att 9-PCTs, TECs and TS Locations-V5-XYZ-2026). A third threatened plant species, *Cryptostylis hunteriana* (Leafless Tongue Orchid) was also detected on nearby lands within the Heathcote Road reserve. To date, no individuals of this species have been recorded within the Project Area.

Targeted fauna surveys were undertaken for 11 threatened fauna species listed under the EPBC Act (two amphibian, two bird, one gastropod, five mammal and one reptile). Details of the target species, the survey methods used, dates of survey and weather conditions are supplied in the attached Att 11-Fauna Species Survey Method Table-XYZ-2025. Species were surveyed using the methodologies in the following survey guideline documents:

- For amphibians, the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) NSW Survey Guide for Threatened Frogs. A guide for the survey of threatened frogs and their habitats for the Biodiversity Assessment Method ((NSW DPIE 2020) NSW Survey Guide for Threatened Frogs)).
- For the Koala, the DCCEEW Koala (*Phascolarctos cinereus*) Biodiversity Assessment Method Survey Guide ((NSW DPE 2022) Koala (*Phascolarctos cinereus*) Biodiversity Assessment Method Survey Guide)).
- For microbats, the DCCEEW ‘Species Credit’ Threatened Bats and Their Habitats, NSW Survey Guide for the Biodiversity Assessment Method ((NSW OEH 2018) ‘Species credit’ threatened bats and their habitats)).
- For reptiles, the DCCEEW NSW Threatened Reptiles Biodiversity Assessment Method Survey Guide ((NSW DPE 2022) Threatened reptiles Biodiversity Assessment Method survey guide)).

- Species-specific survey requirements as detailed in the species profile in the TBDC ((NSW DCCEEW 2024) Threatened Biodiversity Data Collection)).
- For all other species, the NSW Draft Assessment Guidelines ((NSW DPEC 2004) Threatened Biodiversity Survey and Assessment: Guidelines. Draft)).

No threatened fauna species listed under the EPBC Act have been recorded within the Project Area to date.

The following EPBC Act listed species were detected in the Project Area or were assumed present (due to inconclusive identification).

- Flora
  - *Genoplesium baueri* (Bauer's Midge Orchid). Detected on site as above.
  - *Melaleuca deanei* (Deane's Paperbark). Detected on site as above.
- Fauna
  - *Chalinolobus dwyeri* (Large-eared Pied Bat). Known from local records and suitable habitat is present in the Project Area within 2km of mapped clifflines.
  - *Isoodon obesulus obesulus* (Southern Brown Bandicoot). Bandicoot seen during spotlighting, species could not be determined. Assumed present.

As above, a fourth flora species, *Cryptostylis hunteriana* (Leafless Tongue Orchid) was detected within the Heathcote Road reserve during the February 2025 surveys. To date, no individuals of this species have been recorded within the Project Area.

All other species were adequately surveyed for in line with the above guidelines and have been removed from further consideration.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

The Disturbance Footprint and Avoidance Area is located between the top ridge along Heathcote Road to the west to a low point along the Mill Creek Stormwater Channel in the east with an approximate altitude of 148m to 109m Above Seal Level. Most of the Disturbance Footprint and Avoidance Area is dominated by native vegetation, with the exception of a large (approximately 5ha) cleared area dominated by exotic grasses in the south and cleared unsealed dirt areas and access tracks in the north interspersed with patches of native vegetation. The remainder of the Project Area to the east of the Disturbance Footprint and Avoidance Area forms part of the existing active lands of the LHRRP and is devoid of significant native vegetation and native fauna habitat.

With reference to the NSW eSPADE v2.2 mapping service, the Project Area falls wholly within the Lucas Heights geological landscape. The geology of this landscape is described as "M*ittagong Formation—inter-bedded shale, laminite and fine- to medium-grained quartz sandstone. The Mittagong Formation is located stratigraphically between the Ashfield Shale and Hawkesbury Sandstone. It is often relatively shallow. Minor areas of Hawkesbury Sandstone and Ashfield Shale sporadically form surface soil materials within this landscape. Localised laterite outcrops occur*". Soils are described as "*moderately deep (50–150 cm), hard setting Yellow Podzolic Soils and yellow Soloths (Dy2.41) on ridges and plateau surfaces. Lateritic Podzolic Soils (Dy3.61) on ridges and plateau surfaces. Lateritic Podzolic Soils (Dy3.61) on crests; Yellow Earths (Gn2.24) on shoulders of plateaux and ridges. Earthy Sands (Uc5) in valley flats*". See attached link (NSW Government 2024) eSPADE report 9029lh Lucas Heights.

These descriptions matched the observed geology and soils of the less disturbed portions of the Project Area (Disturbance Footprint and Avoidance Area). Areas containing significant infrastructure (southern clay target shooting ground) contained a modified, flattened landscape with a constructed berm along the eastern edge of this area. This area likely contained imported fill to achieve the desired landform as well as imported capping turf. The eastern berm also supports the only significant exotic woody vegetation present in the Project Area.

The Disturbance Footprint and Avoidance Area currently support four distinct Plant Community Types, which have been divided into eight vegetation zones due to differing broad condition classes (as per the NSW BAM):

- Sydney Hinterland Apple-Blackbutt Gully Forest (PCT 3615).
    - Occurs as a single good condition zone (zone 5). This zone has a complete strata assemblage (canopy, shrub and ground and very low weed presence).
- Sydney Hinterland Enriched Sandstone Bloodwood Forest (PCT 3619)
    - Occurs as four different condition zones.
        - Zone 1, good condition vegetation interspersed with unsealed cleared areas and access tracks and impacted by clay shooting range activities.
        - Zone 2, good condition but disturbed area indicative of regrowth. Characteristic species are present, but zone is dominated by *Allocasuarina* spp, which outcompete most other natives. Understory is open and of low diversity, dominated by *Allocasuarina* spp. needles.
        - Zone 3, good condition vegetation with a complete strata assemblage (canopy, shrub and ground and very low weed presence).
        - Zone 4, low condition vegetation indicative of clearing within the last decade. Immature *Allocasuarina* spp. limited native understory and large areas of exposed soil.
- Sydney Hinterland Dwarf Apple Low Woodland (PCT 3813)
    - Occurs as two different condition zones.
        - Zone 6, moderate condition native vegetation within a previously cleared access corridor. Regenerating shrubs and groundcovers with low weed presence but few members of the indicative Dwarf Apple (*Angophora hispida*).
        - Zone 7, good condition patches of this PCT showing influence from the adjacent PCT 3615 and PCT 3619 vegetation areas with a higher canopy beginning to establish.

- Sydney Coastal Upland Swamp Heath (PCT 3924).
    - Occurs as a single good conditions zone (zone 8) along a drainage channel below (east) of the waterbody in the southern SICTA shooting range.
    - This zone conforms to the TEC of Coastal Upland Swamps in the Sydney Basin Bioregion.

Attached mapping shows the distribution of these zones in the Project Area (Att 9-PCTs, TECs and TS Locations V5-XYZ-2026)

3.3 Heritage

3.3.1 Describe any Commonwealth Heritage Places Overseas or other places recognised as having heritage values that apply to the project area.

The Cubbitch Barta National Estate Area is located to the west of the Project Area. No direct or indirect impacts to this Commonwealth Heritage Place would occur as a result of the Project.

As per Page 15 and 18 of the Review of the Conservation Values of Commonwealth land in Western Sydney, the biodiversity and indigenous cultural values are described below:

Biodiversity values

"*This area contains a diversity of natural landscapes and vegetation types in a relatively unmodified condition, in an area otherwise greatly altered by urban development. Vegetation communities include plateau forest (covering forest and woodland on both tertiary alluvium soils and on shale), gully forest, woodland/heath complex, riparian forest, sedgeland, heath/swamp complex and melaleuca thickets. The laterite ridgetops are almost entirely intact and are significant reference sites that demonstrate the formation of laterite caps and the occupying vegetation communities*"

Indigenous values

"The Holsworthy military area contains the Cubbitch Barta National Estate Area - occupies 18,000 ha of the Woronora Plateau, 30 km south-west of inner Sydney. It is very significant as a cultural and natural landscape that demonstrates relationships between the environment and human occupation through time The Cubbitch Barta National Estate Area is highly valued by members of the Tharawal Local Aboriginal Land Council and the Dharawal people for its symbolic, cultural, educational and social associations. Numerous Aboriginal sites provide a glimpse of the relationship between people and the land prior to 1788. The sites and the area's long term and more recent connections with Aboriginal people, combine to form a landscape of great significance for its Indigenous heritage. The Aboriginal cultural landscape of the area reflects the past lifestyle of Aboriginal people in this region and its preservation enables Aboriginal people to maintain cultural links to the area. These connections with the past are particularly important, because Aboriginal people in this part of Australia were among the earliest impacted by European settlement of this continent and their culture has since been disrupted by war, disease and urban development"

This document is referenced in this section ((Commonwealth DCCEEW 2021) Review of the Conservation Values of Commonwealth land in Western Sydney))

3.3.2 Describe any Indigenous heritage values that apply to the project area.

No indigenous heritage values are known to apply to the Project Area. A Aboriginal Cultural Heritage Report was prepared for the Project Area by GHD, attached (Att 7-Cleanaway Aboriginal Heritage Report-XYZ-2025). Att 7-Cleanaway Aboriginal Heritage Report-XYZ-2025 is currently in draft form and not available to the public.

This report concludes "*there are no Aboriginal objects within the proposal footprint. Mill Creek 9 is located 50 m north of the northern boundary of the proposal footprint. There would be no direct or indirect impact as a result of the proposal".*

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

There is one mapped watercourse within the Project Area, Mill Creek, which in the form of the Mill Creek Stormwater Channel forms the central north-south drainage of the Project Area, which ultimately discharges into the Georges River approximately 7km to the north. The Project Area supports upper first order tributaries of this channel which discharge to the stormwater channel to the east of the Disturbance Footprint and Avoidance Area, which then transitions to a second order stream to the north of the Project Area. Additionally, the Disturbance Footprint and Avoidance Area contains one artificial waterbody, within the former SICTA grounds to the east of the southern shooting area. Four other artificial waterbodies are located within the Project Area, one to the south of the Disturbance Footprint and Avoidance Area and three outside the eastern boundary, installed as leachate and stormwater dams for the existing landfill.

According to the Aquatic Habitat Assessment undertaken in the Project Area, the aquatic habitat was assessed as a Class 3 waterway with minimally sensitive key fish habitat with mostly artificial substrate and ephemeral aquatic habitat. An inspection of the creek (including the Mill Creek Stormwater Channel and portions of Mill Creek offsite downstream to the north) undertaken on 29th April 2024 recorded no threatened species within the Project Area. This report is attached (Att 12-Lucas Heights AHA-V2-XYZ-2025).

The following threatened species was found to have potential to occur within the study locality according to the DPIE-EES BioNet database, NSW DPI Threatened species list and the PMST:

- *Macquaria australasica* (Macquarie Perch).

This species is considered unlikely to occur within the Project Area due to unsuitable habitat. As detailed in the Aquatic Habitat Assessment this species " *occurs in buffer area only. Suboptimal habitat occurs in the study area and individuals are unlikely to take up residency*".

The Project Area does not contain any critical habitats declared under the EPBC Act and no nationally important or Ramsar wetlands occur either within the Project Area or Assessment Area (1,500m buffer).

The Project Area lies within the Georges River catchment area. In addition to Mill Creek, first, second and third order sections of Deadmans Creek and first and second order sections of Barden's Creek are also present within the Assessment Area. However, these occur in separate subcatchments to Mill Creek.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No items of world heritage were identified from within 10km in the PMST search conducted for the Project Area on 02/11/2025

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	National heritage
No	No	Royal National Park and Garawarra State Conservation Area

4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

One item of national heritage was identified from within 10km in the PMST search conducted for the Project Area on 02/11/2025,

The Royal National Park and Garawarra State Conservation Area.

The boundary of this national heritage item is located over 5km from the Project Area.

The Project will not have a direct or indirect impact on this item of national heritage.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
No	No	Towra Point Nature Reserve

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

One Ramsar wetland was identified from within 10km of the Project Area in the PMST report conducted on 02/11/2025, the Towra Point Wetlands.

However, this wetland is located approximately 16km from the Project Area and waterways within the Project Area do not flow into Towra Point Wetlands.

The Project will not have a direct or indirect impact on this Ramsar Wetland

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Acacia baueri subsp. aspera	
No	No	Acacia bynoeana	Bynoe's Wattle, Tiny Wattle
No	No	Acacia pubescens	Downy Wattle, Hairy Stemmed Wattle
No	No	Acacia terminalis subsp. Eastern Sydney (G.P.Phillips 126)	Sunshine Wattle (Sydney region)
No	No	Allocasuarina glareicola	
No	No	Anthochaera phrygia	Regent Honeyeater
No	No	Aphelocephala leucopsis	Southern Whiteface
Yes	Yes	Botaurus poiciloptilus	Australasian Bittern
No	No	Caladenia tessellata	Thick-lipped Spider-orchid, Daddy Long-legs
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Callocephalon fimbriatum	Gang-gang Cockatoo
No	No	Calyptorhynchus lathami lathami	South-eastern Glossy Black-Cockatoo
Yes	Yes	Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat
No	No	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
No	No	Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)
No	Yes	Cryptostylis hunteriana	Leafless Tongue-orchid
No	No	Cynanchum elegans	White-flowered Wax Plant
No	No	Dasyornis brachypterus	Eastern Bristlebird
Yes	Yes	Dasyurus maculatus maculatus (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)

Direct impact	Indirect impact	Species	Common name
No	No	Erythrotriorchis radiatus	Red Goshawk
No	No	Eucalyptus camfieldii	Camfield's Stringybark
No	No	Falco hypoleucos	Grey Falcon
No	No	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	Yes	Genoplesium baueri	Yellow Gnat-orchid, Bauer's Midge Orchid, Brittle Midge Orchid
No	No	Grantiella picta	Painted Honeyeater
No	No	Heleioporus australiacus australiacus	Giant Burrowing Frog, Eastern Owl Frog
Yes	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Hoplocephalus bungaroides	Broad-headed Snake
Yes	Yes	Isoodon obesulus obesulus	Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern)
No	No	Lathamus discolor	Swift Parrot
No	No	Leucopogon exolasius	Woronora Beard-heath
No	No	Litoria aurea	Green and Golden Bell Frog
No	No	Litoria littlejohni	Northern Heath Frog, Littlejohn's Tree Frog
No	No	Macquaria australasica	Macquarie Perch
No	No	Melaleuca biconvexa	Biconvex Paperbark
No	Yes	Melaleuca deanei	Deane's Melaleuca
No	No	Melanodryas cucullata cucullata	South-eastern Hooded Robin, Hooded Robin (south-eastern)
No	No	Mixophyes balbus	Stuttering Frog, Southern Barred Frog (in Victoria)
No	No	Neophema chrysostoma	Blue-winged Parrot
No	No	Notamacropus parma	Parma Wallaby
No	No	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Persicaria elatior	Knotweed, Tall Knotweed

Direct impact	Indirect impact	Species	Common name
No	No	Persoonia hirsuta	Hairy Geebung, Hairy Persoonia
No	No	Persoonia nutans	Nodding Geebung
No	No	Petauroides volans	Greater Glider (southern and central)
No	No	Petaurus australis australis	Yellow-bellied Glider (south-eastern)
No	No	Petrogale penicillata	Brush-tailed Rock-wallaby
No	No	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)
No	No	Pimelea curviflora var. curviflora	
No	No	Pomaderris brunnea	Rufous Pomaderris, Brown Pomaderris
No	No	Prasophyllum fuscum	Tawny Leek-orchid, Slaty Leek-orchid
Yes	Yes	Pseudomys novaehollandiae	New Holland Mouse, Pookila
Yes	Yes	Pteropus poliocephalus	Grey-headed Flying-fox
No	No	Pterostylis saxicola	Sydney Plains Greenhood
No	No	Pultenaea aristata	
No	No	Pycnoptilus floccosus	Pilotbird
No	No	Rhizanthella slateri	Eastern Underground Orchid
No	No	Rhodamnia rubescens	Scrub Turpentine, Brown Malletwood
No	No	Rhodomyrtus psidioides	Native Guava
Yes	Yes	Rostratula australis	Australian Painted Snipe
No	No	Stagonopleura guttata	Diamond Firetail
No	No	Syzygium paniculatum	Magenta Lilly Pilly, Magenta Cherry, Daguba, Scrub Cherry, Creek Lilly Pilly, Brush Cherry
No	No	Thelymitra kangaloonica	Kangaloon Sun Orchid
No	No	Thesium australe	Austral Toadflax, Toadflax
No	No	Tringa nebularia	Common Greenshank, Greenshank

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Coastal Swamp Sclerophyll Forest of New South Wales and South East Queensland
Yes	No	Coastal Upland Swamps in the Sydney Basin Bioregion
No	No	River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria
No	No	Shale Sandstone Transition Forest of the Sydney Basin Bioregion
No	No	Upland Basalt Eucalypt Forests of the Sydney Basin Bioregion

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Proposed Action is considered likely to have direct and/or indirect impacts on the following EPBC Act listed entities:

1. Coastal Upland Swamps in the Sydney Basin Bioregion.
2. Bauer's Midge Orchid (*Genoplesium baueri*).
3. Deane's Paperbark (*Melaleuca deanei*).
4. Leafless Tongue Orchid (*Cryptostylis hunteriana*).

The proposed Action is considered to have potential to have direct and/or indirect impacts on the following EPBC Act listed entities based on suitable habitat within the Project Area and assumed presence:

1. Australasian Bittern (*Botaurus poiciloptilus*).
2. Australian Painted Snipe (*Rostratula australis*).
3. Grey-headed Flying Fox (*Pteropus poliocephalus*).
4. Large-eared Pied Bat (*Chalinolobus dwyeri*).
5. Latham's Snipe (*Gallinago hardwickii*).
6. New Holland Mouse (*Pseudomys novaehollandiae*).
7. Southern Brown Bandicoot (Eastern) (I*soodon obesulus obesulus*).
8. Spotted-tailed Quoll (SE Mainland Population) (*Dasyurus maculatus maculatus*).
9. White-throated Needletail (*Hirundapus caudacutus*).

The Proposed Action would have a direct impact on these species through direct and indirect impacts on 19.39 ha of habitat. The entire 0.36ha extent of Coastal Upland Swamps in the Sydney Basin Bioregion vegetation would be permanently removed. The Proposed Action would remove a small waterbody with muddy shoreline habitat, a potential resource for the listed threatened wading birds species.

The Proposed Action would have indirect impacts on retained habitat on adjacent lands through facilitating weed colonization, increased noise light and dust pollution and increased vehicular traffic.

Assessment of the impacts on these entities is provided in the attached MNES Significant Impact Assessment document (Att 13-AoS-TECs and threatened species V6-XYZ-2025).

A map showing the location of major and minor clifflines within the proximity of the Project Area is also attached for the assessment of the Large-eared Pied Bat (Att 14-Locality Map-XYZ-2025). Please note that this figure is for indicative purposes and does not show the boundaries of the Project Area.

Att 9-PCTs, TECs and TS Locations-V5-XYZ-2026 show the location of potential roost sites within the Project Area (human-made structures). The Project Area does not contain any significant cliffline habitat but does contain two underground concrete structures supporting Fairy Martin (*Petrochelidon ariel*) nests, known to be used for roosting by the species (see link Large-eared Pied Bat - profile). Att 15-Large-eared Pied Bat Habitat-XYZ-2025 provides a photo of this habitat within the Project Area. These structures are considered to be moderate quality habitat for the species, with the other human-made structures considered low quality habitat. With reference to the NSW species profile for the species (see ling Large-eared Pied Bat - profile), the species is not known to regularly use above-ground human-made structures.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

The Proposed Action is considered to have a significant impact on the following listed entities:

1. Coastal Upland Swamps in the Sydney Basin Bioregion.
2. Bauer's Midge Orchid (*Genoplesium baueri*).
3. Deane's Paperbark (*Melaleuca deanei*).

The Proposed Action is considered likely to have a significant impact on Bauer's Midge Orchid (*Genoplesium baueri*) through the removal of 44 known individuals, an unknown number of undetected individuals and directly and indirectly impact 16.29ha of habitat. Indirect impacts on adjacent habitat contain additional known and unknown individuals. The majority of the population detected would be retained however, with 59 retained within the Project Area and an additional 152 which would be located outside of the Project Area on the Council reserve lands to the north and the Heathcote Road reserve to the west. The individuals within the Project Area would be retained within a 3.34ha area of retained habitat which would be managed for conservation purposes.

The Proposed Action would have a significant impact on Coastal Upland Swamps in the Sydney Basin Bioregion through the removal of the entire 0.36ha occurrence of this TEC.

The Proposed Action would have a significant indirect impact on Deane's Paperbark (*Melaleuca deanei*) through the direct and indirect impact on 18.23ha of habitat. However, no known individuals would be removed. It would also have indirect impacts on adjacent habitat containing additional known individuals. The individuals within the Project Area would be retained within a 3.34ha area of retained habitat which would be managed for conservation purposes.

The Proposed Action may directly and indirectly impact 5.47ha of suitable habitat for the Leafless Tongue Orchid (*Cryptostylis hunteriana*). However, no known individuals would be impacted. Therefore, impacts to this species are not considered significant.

Assessment of the impacts on these entities is provided in the attached MNES Significant Impact Assessment document (Att 13-AoS-TECs and threatened species V6-XYZ-2025)

4.1.4.7 Do you think your proposed action is a controlled action? *

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

The Proposed Action is considered a controlled action due to the projected impacts on three EPBC Act listed entities:

1. Coastal Upland Swamps in the Sydney Basin Bioregion.
2. Bauer's Midge Orchid (*Genoplesium baueri*).
3. Deane's Paperbark (*Melaleuca deanei*).

The Proposed Action would remove the entire occurrence of Coastal Upland Swamps in the Sydney Basin Bioregion TEC vegetation and a significant area of habitat for the both threatened flora species as well as 44 known Bauer's Midge Orchid (*Genoplesium baueri*) individuals and an unknown number of undetected individuals.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The Proposed Action is located in the only suitable part of the Lucas Heights Resource Recovery Park (LHRRP). All other lands are occupied by existing landfill cells, other infrastructure or are too small to facilitate the required landfill expansion requirements to meet the capacity shortfall by the 2030's.

The existing LHRRP has a fixed landfill capacity that will be affectively completed by 2030. This will mean a reduction of circa 900,000 tonnes per annum (tpa) of landfill capacity for Sydney with no existing alternatives. The proposed new landfill cells will allow for an additional 8-10 years of capacity (from 2030) for an additional larger facility to be found and established.

Following the extensive targeted surveys undertaken to date, significant measures have been implemented to avoid and minimize impacts to MNES, particularly *Genoplesium baueri* and *Melaleuca deanei* . The Mill Creek diversion and proposed stormwater and leachate ponds in the north-west corner of the Project Area have been redesigned to avoid all known *Melaleuca deanei* individuals and the majority of the known *Genoplesium baueri* population within the Project Area (59 of 103). This has resulted in a reduction on individuals from 103 (removed and isolated) to 44 (removed and none isolated) and a reduction in impacts to habitat from 18.79ha to 16.29ha. A 3.34ha patch of native vegetation is proposed to be retained in the north-west corner of the Project Area.

This retained area represents a significant increase in the retained area compared to the original proposed design which would have retained only 0.95ha in the north-west corner and would have partially isolated this habitat through the Mill Creek re-routing following the western edge of the Project Area. The revised design increases the retained area and maintains connectivity with native vegetation offsite. Under the revised design, the Mill Creek re-routing will follow the landfill cells and dams rather than the western boundary of the Project Area, allowing connectivity to be retained.

The following mitigation measures are proposed for the Proposed Action:

- Timing works to avoid critical life cycle events, such as breeding or nursing.
- Clearing protocols, including pre-clearing surveys, daily surveys and staged clearing, and using a trained ecologist or licensed wildlife handler during clearing events.
- Relocating habitat features (eg fallen timber, hollow logs) from the development or clearing site, to adjacent retained vegetation.
- Clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance.
- Using adaptive dust management and monitoring programs to control air quality.
- Scheduling the timing of construction activities to avoid impacts (e.g. timing the construction for when migratory species are not at the site, or when particular species known to, or likely to use the habitat on the site, are not breeding or nesting).
- Erecting temporary fencing to protect significant environmental features, such as retained threatened plants, native vegetation and riparian zones.
- Using hygiene protocols to prevent the spread of weeds or pathogens between infected and uninfected areas.
- Training staff and conducting site briefings to communicate environmental features to be protected and measures to be implemented.
- Preparing a Vegetation Management Plan (VMP) and Threatened Species Management Plan (TSMP) to regulate activity in vegetation and habitats adjacent to the impact area. These plans will govern the management of the retained habitat area for conservation purposes.
- Providing for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on, or adjacent to, the development or clearing site. This will be governed under the abovementioned VMP and TSMP documents.

See attached figure (Att 16-Disturbance Footprint and Avoidance Area-V4-XYZ-2025) for the proposed Disturbance Footprint and Avoidance Areas

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

The Proposed Action is being assessed through a Biodiversity Development Assessment Report (BDAR) as per Part 7.9 of the *Biodiversity Conservation Act 2016* as a State Significant Development. The BDAR details the calculation of biodiversity offset requirements according to the NSW Biodiversity Assessment Method (BAM) for residual impacts on affected entities (comprising native vegetation, or PCTs, threatened species (and their habitats) and threatened ecological communities listed under the BC Act).

Biodiversity offsets have been calculated for all entities considered likely to be significantly impacted by the Project Area (see **Section 4.1.4.5** above). Threatened entities that will be impacted by the Project Area and for which biodiversity offsets are required are:

1. Coastal Upland Swamps in the Sydney Basin Bioregion, TEC listed as endangered under the EPBC Act.
2. Bauer's Midge Orchid (*Genoplesium baueri*), threatened species listed as endangered under the EPBC Act.
3. Deane's Paperbark (*Melaleuca deanei*), threatened species listed as vulnerable under the EPBC Act.
4. Leafless Tongue Orchid (*Cryptostylis hunteriana*), threatened species listed as vulnerable under the EPBC Act.

In addition, the BDAR contains calculated ecosystem and species credits for the following additional EPBC Act-listed species shown in **Section 4.1.4.2** above:

Species credit only

1. Large-eared Pied Bat (*Chalinolobus dwyeri*).
2. Southern Brown Bandicoot (Eastern) (I*soodon obesulus obesulus*).

Ecosystem credit only

1. Australian Painted Snipe (*Rostratula australis*).
2. Grey-headed Flying Fox (*Pteropus poliocephalus*).
3. New Holland Mouse (*Pseudomys novaehollandiae*).
4. Spotted-tailed Quoll (SE Mainland Population) (*Dasyurus maculatus maculatus*).
5. White-throated Needletail (*Hirundapus caudacutus*).

Attached is a modified table from the BDAR identifying the relevant EPBC Act species credit species, proposed area to be offset and calculated number of credits required (Att 17-Proposed Offset Package V3-XYZ-2025.pdf)

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	Actitis hypoleucos	Common Sandpiper
Yes	Yes	Apus pacificus	Fork-tailed Swift
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris melanotos	Pectoral Sandpiper
No	No	Charadrius leschenaultii	Greater Sand Plover, Large Sand Plover
No	No	Cuculus optatus	Oriental Cuckoo, Horsfield's Cuckoo
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	Yes	Hirundapus caudacutus	White-throated Needletail
No	No	Motacilla flava	Yellow Wagtail
No	No	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Pandion haliaetus	Osprey
No	No	Tringa nebularia	Common Greenshank, Greenshank

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Proposed Action would remove a small (~1,400m2) waterbody containing mud shore habitat which could be used for foraging by the Latham's Snipe (*Gallinago hardwickii*).

The non-listed wading bird species the Black-fronted Dotterel (*Elseyornis melanops*) was seen using this resource, indicating that it is suitable habitat for this group of birds. The Project would also have the indirect impacts of increased noise, light and dust generation during construction and operation which could reduce the habitat utility of retained habitat for this species (Mill Creek environment downstream of the Project Area).

The Proposed Action would also directly and indirectly impact 19.39ha of roosting habitat for the following terrestrial migratory birds:

- Fork-tailed Swift (*Apus pacificus*).
- White-throated Needletail (*Hirundapus caudacutus*).

However, the habitat to be removed is not limited in the locality. Both of these species are exclusively aerial foragers and the Project Area is considered likely to be used for occasional flyover and roosting. No important life stage habitat is present in the Project Area.

The Proposed Action would also have the indirect impacts of increased noise, light and dust generation during construction and operation which could reduce the habitat utility of retained habitat for these species (adjacent forest habitat to the north and west of the Project Area).

See the attached MNES Significant Assessment document for details on the direct and indirect impacts of the Proposed Action on these species (Att 18-AoS-Migratory species V3-XYZ-2025)

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

The Project Area contains suitable habitat for the Latham's Snipe (*Gallinago hardwickii*), and the species is likely to occur in the locality.

The Proposed Action would remove a small (~1,400m2) artificial waterbody with some foraging utility for this species from the Project Area. However, resources for this species is limited in the locality, with no major river deltas or wetland complexes nearby. The habitat to be removed is not considered an important resource for the migratory success of this species.

The Project Area contains suitable but general roosting habitat for the following species, and these species are likely to occur in the locality.

- Fork-tailed Swift (*Apus pacificus*).
- White-throated Needletail (*Hirundapus caudacutus*).

The Proposed Action would directly and indirectly impact a significant amount of habitat (19.39 ha) from the locality for these species. However, this consists of general roosting habitat and is not considered highly preferable habitat for any of these species. The habitat is considered likely to be used only opportunistically during migrations. These species either do not breed in Australia or the habitat present in the Project Area does not meet the species' known breeding habitat preferences.

See the attached MNES Significant Assessment document for details on the direct and indirect impacts of the Proposed Action on these species (Att 18-AoS-Migratory species V3-XYZ-2025)

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

As detailed in **Section 4.1.5.6** above, the Proposed Action has not been assessed as likely to have a significant impact on these listed migratory species. The habitat to be permanently removed comprises a small area of artificial waterbody habitat for the migratory wading species and general foraging habitat for the terrestrial migratory species. The habitat to be directly and indirectly impacted by the Proposed Action was not identified as important to these species for any critical life stage (breeding, key foraging area etc.).

Full details of the assessment of likely impacts of the Proposed Action are provided in the attached MNES significant impact assessments.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

The Proposed Action is located in the only suitable part of the Lucas Heights Resource Recovery Park (LHRRP). All other lands are occupied by existing landfill cells, other infrastructure or are too small to facilitate the required landfill expansion requirements to meet the capacity shortfall by the 2030's.

The existing LHRRP has a fixed landfill capacity that will be affectively completed by 2030. This will mean a reduction of circa 900,000 tonnes per annum (tpa) of landfill capacity for Sydney with no existing alternatives. The proposed new landfill cells will allow for an additional 8-10 years of capacity (from 2030) for an additional larger facility to be found and established.

These requirements leave limited options for retaining biodiversity values. A 3.34ha patch of native vegetation is proposed to be retained in the north-west corner of the Project Area.

This retained area represents a significant increase in the retained area compared to the original proposed design which would have retained only 0.95ha in the north-west corner and would have partially isolated this habitat through the Mill Creek re-routing following the western edge of the Project Area. The revised design increases the retained area and maintains connectivity with native vegetation offsite. Under the revised design, the Mill Creek re-routing will follow the landfill cells and dams rather than the western boundary of the Project Area.

The following mitigation measures are proposed for the Proposed Action:

- Timing works to avoid critical life cycle events, such as breeding or nursing.
- Clearing protocols, including pre-clearing surveys, daily surveys and staged clearing, and using a trained ecologist or licensed wildlife handler during clearing events.
- Relocating habitat features (eg fallen timber, hollow logs) from the development or clearing site, to adjacent retained vegetation.
- Clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance.
- Using adaptive dust management and monitoring programs to control air quality.
- Scheduling the timing of construction activities to avoid impacts (e.g. timing the construction for when migratory species are not at the site, or when particular species known to, or likely to use the habitat on the site, are not breeding or nesting).
- Erecting temporary fencing to protect significant environmental features, such as retained threatened plants, native vegetation and riparian zones.
- Using hygiene protocols to prevent the spread of weeds or pathogens between infected and uninfected areas.
- Training staff and conducting site briefings to communicate environmental features to be protected and measures to be implemented.
- Preparing a Vegetation Management Plan (VMP) and Threatened Species Management Plan (TSMP) to regulate activity in vegetation and habitats adjacent to the impact area. These plans will govern the management of the retained habitat area for conservation purposes.
- Providing for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on, or adjacent to, the development or clearing site. This will be governed under the abovementioned VMP and TSMP documents.

See attached figure (Att 16-Disturbance Footprint and Avoidance Area-V4-XYZ-2025) for the proposed Disturbance Footprint and Avoidance Areas

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

No offsets are proposed for these species for the Proposed Action.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed Action does not include any nuclear actions as detailed under the EPBC Act:

- Establishing or significantly modifying a nuclear installation.
- Transporting spent nuclear fuel or radioactive waste products.
- Establishing or significantly modifying a facility for storing radioactive waste products.
- Mining or milling uranium ore.
- Establishing or significantly modifying a large-scale disposal facility for radioactive waste.
- Decommissioning or rehabilitating any facility or area in which one of the activities above has occurred.
- Any other type of action set out in the EPBC Regulations.

The Australian Nuclear Science and Technology Organisation grounds are located within 2km of the Project Area and the Project Area abuts the western edge of the 1.6km buffer boundary the shutdown High Flux Australian Reactor (HIFAR) research reactor.

The Project will not have a direct or indirect impact on a nuclear action

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No part of the Commonwealth Marine Area is located within 10km of the Project Area, with reference to the PMST report conducted on 02/11/2025.

The Project will not have a direct or indirect impact on the Commonwealth Marine Area

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No part of the Great Barrier Reef Marine Park is located within 10km of the Project Area, with reference to the PMST search conducted on 02/11/2025.

The Project will not have a direct or indirect impact on the Great Barrier Reef Marine Park

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed Action does not comprise a large coal mining development or coal seam gas project

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

933 items of Commonwealth Land were identified within 10km of the Project Area with reference to the PMST report conducted on 02/11/2025. 846 of these apply to Defence Lands, primarily the Holsworthy Army Base Defence lands located to the west of the Project Area over Heathcote Road. 20 apply to the ANSTO facility (Australian Nuclear) located 1.6km to the east of the Project Area. 11 apply to Communication, Information Technology and the Arts (Australian Postal and Telstra Corporation), one applies to the Commonwealth Trading Bank of Australia and 55 are listed as unknown. Four apply to the Australian Postal Commission.

Of these, all but five are listed as “in buffer area only". Five are listed as “in feature area” as below:

- 12924, unknown.
- 16066, unknown.
- 12143, Education, Science and Training - Australian Nuclear Science and Technology Organisation.
- 13462, unknown.
- 15916, Education, Science and Training - Australian Nuclear Science and Technology Organisation.

12143 and 15916 relate to the 1.6km buffer from the ANSTO reactor which partially falls along the eastern boundary of the Project Area. The Proposed Action will involve Commonwealth Lands through the piping of landfill gases and leachate to the existing LHRRP gas facility and leachate treatment facility, which are located on ANSTO lands, leased by the Proponent. As this action would not create a new land use, but rather continue an existing approved land use within the LHRRP, this impact is not considered significant on this item of Commonwealth Land. Connection to the piping leading to these facilities would occur within the Project Area and no ground disturbance or changes to these facilities within the Commonwealth Land area would occur.

The remainder are listed as unknown with no details given.

The Project does not involve any nuclear actions (as defined under the EPBC Act).

The Project will not have a direct or indirect impact on Commonwealth Lands

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No overseas Commonwealth Heritage Places were listed in the PMST report conducted for the Project Area on 02/11/2025.

The Project will not have a direct or indirect impact on any overseas Commonwealth Heritage Places

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

The Project Area is located in the only suitable part of the Lucas Heights Resource Recovery Park (LHRRP) for the Proposed Action. All other lands are occupied by existing landfill cells, other infrastructure or are too small to facilitate the required landfill expansion requirements to meet the capacity shortfall by the 2030's. Providing additional landfill capacity through an extension of the existing landfill makes good use of existing infrastructure such as roads, landfill gas management and energy recovery infrastructure, and leachate management infrastructure.

If the additional capacity was not provided through an extension of the existing landfill, a new landfill would be required. It is likely this would be located outside of the Sydney metropolitan area resulting in additional costs and impacts associated with long distance haulage of waste. The NSW Government estimate that transport of putrescible waste from Sydney to regional locations will increase the cost of red bin waste collection services to households by 20 per cent (see link, Sydney Landfill Shortage).

The existing LHRRP has a fixed landfill capacity that will be affectively completed by 2030. This will mean a reduction of circa 900,000 tonnes per annum (tpa) of landfill capacity for Sydney with no existing alternatives within a two hour drive from Greater Sydney that can accept this volume of waste. The proposed new landfill cells will allow for an additional 10-15 years of capacity (2031-2046) for an additional larger facility to be found and established.

Once the existing LHRRP capacity is reached, these lands will be rehabilitated and used for public recreation. This future planned land use and the near capacity of the existing landfill cells in this area prevents the use of any currently cleared part of the LHRRP for the Project. The extended landfill will continue to be accessed by current access through Little Forest Road, off New Illawarra Road to the east of the Project Area.

The diversion of Mill Creek Stormwater Channel is required as the existing channel alignment would be located within the future landfill cells. To enable the new landfill area to tie into the existing landfill area with integrated capping, lining and leachate management systems, the channel must be diverted to the boundary of the new landfill cell. For an efficient design that maximises the landfill capacity the leachate ponds need to be relocated.

Due to the biodiversity values found within the Project Area, significant project design changes were implemented. The northern leachate dam and Mill Creek Stormwater Channel re-direction have been adjusted to allow for the retention of native vegetation and threatened flora populations in the north-west of the Project Area as well as smaller area in the south-west. Attached is the original proposed design for comparison with the current design (Att 19-Original Proposed Action-V2-XYZ-2026). This re-design allows for the retention of the majority of the known *Genoplesium baueri* population within the Project Area (59 of the 103 identified individuals within the Project Area). An additional 152 individuals were also recorded on adjacent lands which would not be directly impacted by the Project. The re-design also allows for the retention of all eight *Melaleuca deanei* individuals within the Project Area. An additional 19 were also recorded on lands to the north, which would not be directly impacted by the Proposed Action.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 20-Instrument for Referral Decision 2001-XYZ-2025.pdf Decision on Controlled Action for a previous 2001 EPBC Act Referral on LHRRP Lands	05/08/2001	No	High
#2.	Document	Att 21-Instrument for Referral Decision 2015-XYZ-2025.pdf Decision on Controlled Action for a previous 2015 EPBC Act Referral on LHRRP Lands	09/04/2015	No	High
#3.	Link	Sydney landfill shortage https://www.epa.nsw.gov.au/Working-together/Comm..			High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-CRG Consultation-REDACTED-XYZ-2025.pdf Consultation minutes with the Lucas Heights Community Reference Group (CRG)	11/09/2025	No	High
#2.	Document	Att 1-CRG Consultation-XYZ-2025.pdf Consultation minutes with the Lucas Heights Community Reference Group (CRG)	11/09/2025	Yes	High
#3.	Document	Att 2-SCC Consultation-REDACTED-XYZ-2025.pdf Briefing letter to Sutherland Shire Council	22/03/2024	No	High
#4.	Document	Att 2-SCC Consultation-XYZ-2025.pdf Briefing letter to Sutherland Shire Council	22/03/2024	Yes	High
#5.	Document	Att 3-ANSTO Consultation-REDACTED-XYZ-2025.pdf Briefing letter to Australian Nuclear Science and Technology Organisation	22/03/2024	No	High
#6.	Document	Att 3-ANSTO Consultation-XYZ-2025.pdf Briefing letter to Australian Nuclear Science and Technology Organisation	22/03/2024	Yes	High
#7.	Document	Att 4-DPHI Consultation-REDACTED-XYZ-2025.pdf	22/03/2024	No	High

		Briefing letter to the NSW Department of Planning, Housing and Infrastructure			
#8.	Document	Att 4-DPHI Consultation-XYZ-2025.pdf Briefing letter to the NSW Department of Planning, Housing and Infrastructure	22/03/2024	Yes	High
#9.	Document	Att 5-EPA Consultation-REDACTED-XYZ-2025.pdf Briefing letter to NSW Environmental Protection Authority	22/03/2024	No	High
#10.	Document	Att 5-EPA Consultation-XYZ-2025.pdf Briefing letter to NSW Environmental Protection Authority	22/03/2024	Yes	High
#11.	Document	Att 6-Holsworthy Consultation-REDACTED-XYZ-2025.pdf Briefing letter to Holsworthy Barracks	19/06/2024	No	High
#12.	Document	Att 6-Holsworthy Consultation-XYZ-2025.pdf Briefing letter to Holsworthy Barracks	19/06/2024	Yes	High
#13.	Document	Att 7-Cleanaway Aboriginal Heritage Report-XYZ-2025.pdf Aboriginal Heritage Report for the Proposed Action	04/11/2025	Yes	High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation’s environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 8-Cleanaway FY25 Sustainability Report-XYZ-2025.pdf Cleanaway FY25 Sustainability Report	31/07/2025	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 16-Disturbance Footprint and Avoidance Area-V4-XYZ-2025.pdf Project Area, Disturbance Footprint and Avoidance Area/Retention Area for the Project	22/12/2025	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 10-Flora Species Survey Table V3-XYZ-2025.pdf Summary of flora survey effort in the Project Area	17/12/2025	No	High

#2.	Document	Att 11-Fauna Species Survey Method Table V2-XYZ-2025.pdf Summary of fauna survey effort in the Project Area	06/11/2025	No	High
#3.	Document	Att 9-PCTs, TECs and TS Locations-V5-XYZ-2026.pdf Location of Threatened Ecological Communities (TECs) and threatened species in the Project Area	03/02/2026	No	High
#4.	Link	(NSW DCCEEW 2024) Threatened Biodiversity Data Collection https://atlaseditor.bionet.nsw.gov.au/Default.aspx			High
#5.	Link	(NSW DPE 2022) Koala (Phascolarctos cinereus) Biodiversity Assessment Method Survey Guide https://www.environment.nsw.gov.au/-/media/OEH/C..			High
#6.	Link	(NSW DPE 2022) Threatened reptiles Biodiversity Assessment Method survey guide https://www.environment.nsw.gov.au/-/media/OEH/C..			High
#7.	Link	(NSW DPEC 2004) Threatened Biodiversity Survey and Assessment: Guidelines. Draft https://www.environment.nsw.gov.au/-/media/OEH/C..			High
#8.	Link	(NSW DPIE 2020) NSW Survey Guide for Threatened Frogs https://www.environment.nsw.gov.au/-/media/OEH/C..			High
#9.	Link	(NSW DPIE 2020) Surveying threatened plants and their habitats https://www.environment.nsw.gov.au/-/media/OEH/C..			High
#10.	Link	(NSW OEH 2018) ‘Species credit’ threatened bats and their habitats https://www.environment.nsw.gov.au/-/media/OEH/C..			High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 9-PCTs, TECs and TS Locations-V5-XYZ-2026.pdf Location of Threatened Ecological Communities (TECs) and threatened species in the Project Area	02/02/2026	No	High
#2.	Link	eSPADE report 9029lh Lucas Heights https://espaderesources.environment.nsw.gov.au/r..			High

3.3.1 Commonwealth heritage places overseas or other places that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	(Commonwealth DCCEEW 2021) Review of the Conservation Values of Commonwealth land in Western Sydney https://www.dcceew.gov.au/sites/default/files/do..			High

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 7-Cleanaway Aboriginal Heritage Report-XYZ-2025.pdf Aboriginal Heritage Report for the Proposed Action	03/11/2025	Yes	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 12-Lucas Heights AHA-V2-XYZ-2025.pdf Aquatic Habitat Assessment	14/05/2024	No	High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 13-AoS-TECs and threatened species V6-XYZ-2025.pdf Assessments of Significance for EPBC Act TECs and threatened species	17/12/2025	No	High
#2.	Document				

Att 14-Locality Map-XYZ-2025.pdf BDAR locality map showing mapped clifflines in the locality			26/08/2025	No	High
#3.	Document	Att 15-Large-eared Pied Bat Habitat-XYZ-2025.jpg Potential roosting habitat for the Large-eared Pied Bat within the Project Area	04/12/2023	No	High
#4.	Document	Att 9-PCTs, TECs and TS Locations-V5-XYZ-2026.pdf Location of Threatened Ecological Communities (TECs) and threatened species in the Project Area	02/02/2026	No	High
#5.	Link	Large-eared Pied Bat - profile https://threatenedspecies.bionet.nsw.gov.au/prof..			High

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 13-AoS-TECs and threatened species V6-XYZ-2025.pdf Assessments of Significance for EPBC Act TECs and threatened species	16/12/2025	No	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 16-Disturbance Footprint and Avoidance Area-V4-XYZ-2025.pdf Project Area, Disturbance Footprint and Avoidance Area/Retention Area for the Project	21/12/2025	No	High

4.1.4.11 (Threatened Species and Ecological Communities) Proposed offsets relevant to avoidance or mitigation measures

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 17-Proposed Offset Package V3-XYZ-2025.pdf Proposed BOS offset package for the Project	17/12/2025	No	High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 18-AoS-Migratory species V3-XYZ-2025.pdf	01/12/2025	No	High

Assessments of Significance for EPBC Act migratory species

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 18-AoS-Migratory species V3-XYZ-2025.pdf Assessments of Significance for EPBC Act migratory species	30/11/2025	No	High

4.1.5.10 (Migratory Species) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 16-Disturbance Footprint and Avoidance Area-V4-XYZ-2025.pdf Project Area, Disturbance Footprint and Avoidance Area/Retention Area for the Project	21/12/2025	No	High

4.3.8 Why alternatives for your proposed action were not possible

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 19-Original Proposed Action-V2-XYZ-2026.pdf Original Proposed Action design	25/02/2026	No	High
#2.	Link	Sydney landfill shortage https://www.epa.nsw.gov.au/Working-together/Comm..			High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	29001584612
Organisation name	SLR CONSULTING AUSTRALIA PTY LTD
Organisation address	NSW 2500
Representative's name	Bo Davidson
Representative's job title	Associate Ecologist
Phone	0402575497
Email	bdavidson@slrconsulting.com
Address	Level 1, The Central Building, Innovation Campus, Squires Way, Wollongong NSW 2500

☑ Check this box to indicate you have read the referral form. *

☑ Check this box to confirm these are the correct identification details. *

☑ By checking this box, I, **Bo Davidson of SLR CONSULTING AUSTRALIA PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	79000164938
Organisation name	CLEANAWAY PTY LTD
Organisation address	VIC 3004
Representative's name	James Perry

Representative's job title	State Manager NSW Post Collections
Phone	0421224382
Email	james.perry@cleanaway.com.au
Address	1725 Elizabeth Drive Kemps Creek NSW 2178

- [x] Check this box to indicate you have read the referral form. *

- [x] Check this box to confirm these are the correct identification details. *

- [x] I, **James Perry of CLEANAWAY PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

You may receive automated notifications that aim to assist you in tracking the progress of your project. You can opt out of these notifications by updating your communication preferences on your profile.

Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

- [x] Check this box to indicate you have read the referral form. *

- [x] Check this box to confirm these are the correct identification details. *

- [x] I, **James Perry of CLEANAWAY PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

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